UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,091	03/12/2004	Christoph L. Schuba	SUN03-0216-SPL	8674

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EXAMINER
BENGZON, GREG C

ART UNIT	PAPER NUMBER
2144	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/800,091	SCHUBA ET AL.
	Examiner	Art Unit
	Greg Bengzon	2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>21 August 2007</u>.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-27* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This application has been examined. Claims 1-27 are pending.

Making Final

Applicant's arguments filed 08/21/2007 have been fully considered but they are not persuasive.

The claim amendments regarding -- '*collapsing various operations related to managing network flows into a single flow classification and dispatch step*' -- and -- '*applying a consistent set of rules to a switching mechanism to facilitate packet flow management* ' -- do not overcome the disclosure by the prior art as applied in the prior Office Action, as shown below.

The Examiner is maintaining the rejection(s) using the same grounds for rejection and thus making this action FINAL.

Priority

The effective date of the claims described in this application is March 12, 2004.

Information Disclosure Statement

The Applicant is respectfully reminded that each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in 37 CFR 1.56.

There were no information disclosure statements filed with this application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 10, 19 recite a limitation for '*collapsing various operations related to managing network flows into a single flow classification and dispatch step*'. The Examiner notes that the claim language is broad and indefinite and that a person of ordinary skill in the art would not be able to ascertain the scope and bounds of this limitation.

While the Applicant Specifications disclose said limitation, there is insufficient

guidance regarding said '*various operations*'. There is also insufficient guidance

regarding said '*single flow classification and dispatch step*'.

The Examiner is interpreting said 'various operations' to mean rule conflict

resolution.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Engbersen (US Publication 2002/0009076) in view Chan et al. (US Patent 6910028)

further in view of what was well-known in the art.

Engbersen disclosed (re. Claim 1) a method for resolving conflicts between

network service rules for network data traffic in a system where rule patterns with longer

prefixes match before rule patterns with shorter prefixes, comprising: receiving a set of

network service rules for network data traffic from multiple network services,

(Engbersen-Figure 2, Paragraph 32, Paragraph 61) wherein network service rules from

different network services can possibly conflict; (Engbersen-Figure 2, Paragraph 32,

Paragraph 61) wherein each of the network service rules specifies, a filter that defines a

prefix for a set of packets in the packet flow, and an action list that specifies one or

more actions to be applied to the set of packets; identifying a conflict between a higher

priority rule and a lower priority rule in the set of network service rules; (Engbersen –

Figure 2 , Paragraph 32,Paragraph 61) and

Engbersen disclosed (re. Claim 1) *applying a consistent set of rules to a*

switching mechanism to facilitate packet flow management (Engbersen – Figure 2 ,

Paragraph 32,Paragraph 61)

While Engbersen substantially disclosed the claimed invention Engbersen did not

disclose (re. Claim 1) resolving the conflict by prepending an action list of the higher

priority rule to an action list of a rule with a filter that defines a longer prefix.

Engbersen did not disclose (re. Claim 1) '*collapsing various operations related to*

managing network flows into a single flow classification and dispatch step'

Chan disclosed (re. Claim 1) resolving the conflict by prepending an action list of

the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

(Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Chan disclosed (re. Claim 1) '*collapsing various operations related to managing network flows into a single flow classification and dispatch step*'(Chan-Column 4 Lines 20-40,Column 6 Lines 5-10)

The Examiner notes that Chan disclosed applying logic overrides and prioritizing as part of the merge policy in order to resolve any rule conflicts.

The Examiner further notes that at the time of the invention list ordering such that higher priority rules are listed first is well-known in the networking art.

Engbersen and Chan are analogous art because they present concepts and practices regarding resolving rule conflicts. At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Chan into Engbersen. The motivation for said combination would have been to provide a flexible assimilator for resolving rule conflicts (Chan-Column 3 Lines 20-30).

Claim 10-18 (re. computer-readable storage medium) are rejected on the same basis as Claims 1-9.

Engbersen-Chan disclosed (re. Claim 10) receiving a set of network service rules for network data traffic from multiple network services, wherein network service rules from different network services can possibly conflict; wherein each of the network service rules specifies, a filter that defines a prefix for a set of packets in the packet flow, and an action list that specifies one or more actions to be applied to the set of packets; identifying a conflict between a higher priority rule and a lower priority rule in

the set of network service rules; and resolving the conflict by prepending an action list of

the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

(Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Claims 19-27 (re. an apparatus that resolves conflicts) are rejected on the same

basis as Claims 1-9.

Engbersen-Chan disclosed (re. Claim 19)   a receiving mechanism configured to

receive a set of network service rules for network data traffic from multiple network

services, wherein network service rules from different network services can possibly

conflict; wherein each of the network service rules specifies, a filter that defines a prefix

for a set of packets in the packet flow, and an action list that specifies one or more

actions to be applied to the set of packets;

a conflict detection mechanism configured to identify a conflict between a higher

priority rule and a lower priority rule in the set of network service rules; and a conflict

resolution·mechanism configured to resolve the conflict by prepending an action list of

the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

(Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Engbersen-Chan disclosed (re. Claim 2,11,20) wherein if the set of packets

associated with the higher priority rule is equal to the set of packets associated with the

lower priority rule, resolving the conflict involves creating a new action list for the higher

priority rule (Engbersen-Paragraph 32) by prepending the action list of the higher priority

rule to the action list of the lower priority rule. (Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Engbersen-Chan disclosed (re. Claim 3,12,21) wherein if the set of packets associated with the higher priority rule is a superset of the set of packets associated with the lower priority rule, resolving the conflict involves creating a new action list for the lower priority rule (Engbersen-Paragraph 32) by prepending the action list of the higher priority rule to the action list of the lower priority rule. (Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Engbersen-Chan disclosed (re. Claim 4,13,22) wherein if the set of packets associated with the lower priority rule is a superset of the set of packets associated with the higher priority rule, resolving the conflict involves creating a new action list for the higher priority rule (Engbersen-Paragraph 32) by prepending the action list of the higher priority rule to the action list of the lower priority rule. (Chan-Column 4 Lines 20-40,Column 9 Lines 40-50,Column 10 Lines 10-20)

Engbersen-Chan disclosed (re. Claim 5,14,23) wherein if the set of packets associated with the lower priority rule intersects the set of packets associated with the higher priority rule, resolving the conflict involves: creating a new rule with a filter that

defines the intersection of the set of packets associated with lower priority rule and the

set of packets associated with the higher priority rule; (Engbersen-Paragraph 94-96)and

creating an action list for the new rule by prepending the action list of the higher priority

rule to the action list of the lower priority rule. (Chan-Column 4 Lines 20-40,Column 9

Lines 40-50,Column 10 Lines 10-20)

Engbersen-Chan disclosed (re. Claim 6,15,24) wherein prior to modifying a rule

in the set of network service rules, the method further comprises cloning the rule to

ensure that potential conflicts with rules that appear later in the set of network service

rules are not overlooked.

The Examiner notes that the process of creating a duplicate copy of a data

record before modification of said data record is well-known in the networking art.

Engbersen-Chan disclosed (re. Claim 7,16,25) wherein the priority of a given

rule is based upon one or more of the following: a priority associated with a network

service from which given rule originated; a count of the number of prefix bits

(Engbersen-Paragraph 45) specified by the filter for the given rule; and

a time stamp indicating when the given rule was incorporated into the set of

network service rules.

Engbersen-Chan disclosed (re. Claim 8,17,26) wherein an action specified by a network service rule can include, but is not limited to: dropping a packet; gathering statistical information about the packet; controlling timer functions associated with the packet; modifying the packet; and passing the packet on. (Engbersen-Paragraph 2)

The Examiner notes that Claim 8 describes well-known packet forwarding and filtering actions.

Engbersen-Chan disclosed (re. Claim 9,18,27) wherein the multiple network services can include, but is not limited to: a firewall service; a service level agreement monitoring service; a load balancing service; a transport matching service; a failover service; and a high availability service. (Engbersen-Paragraph 2)

The Examiner notes that Claim 9 describes well-known network communication services and devices applying packet filtering rules.

Response to Arguments

Applicant's arguments filed 08/21/2007 have been fully considered but they are not persuasive.

The Applicant presents the following argument(s) [*in italics*]:

Engbersen does not mention anything about collapsing packet rules and managing packet flows

The Examiner respectfully disagrees with the Applicant. Engbersen Paragraph 32 disclosed collapsing packet rules.

The Applicant presents the following argument(s) [*in italics*]:

There is nothing in Engbersen and Chan...that teaches collapsing various operations related to managing network flows into a single flow classification and dispatch step.

The Examiner respectfully disagrees with the Applicant.

The Examiner notes that said '*operations related to network flows*' refer to applying packet flow rules. Thus, where Engbersen disclosed resolving rule conflicts and Chan disclosed merging of rule sets, the combination of Engbersen-Chan disclosed *collapsing various operations related to managing network flows.*

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part

of the claimed invention, as well as the context of the passage as taught by the prior art

or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully

requested to indicate the portion(s) of the specification which dictate(s) the structure

relied on for proper interpretation and also to verify and ascertain the metes and bounds

of the claimed invention.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

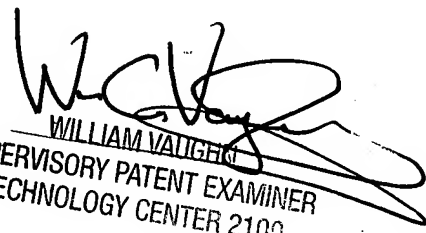than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Greg Bengzon whose telephone number is (571) 272-

3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gcb

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